bitcontrol® LISA

bitcontrol® DFI real-time system

Public transport companies work constantly on the improvement of the public transport and try to enhance the attractiveness, quality and usability for the passengers with different activities.

One way to enhance the attractiveness is the provision of timetable and interchange information for the passenger.

The passener receives the latest interchange information at the stations and more recently inside the public transport vehicles.

Beside the routing, real-time information about interchange connections at the transfer points, delay information, fault messages or detours on the route are displayed.

The software components of the bitcontrol® DFI real-time system by the BitCtrl Systems GmbH provides an alternative solution for the display of dynamic passenger information in public transport vehicles parallel or connected to the integrated board information system.

The new solution of the BitCtrl Systems GmbH is based on default interfaces according to the VDV 452/453/454 standards and the bitcontrol® DFI real-time system components.

The bitcontrol® DFI real-time system works as proxy server between an ITCS (Intermodal Transport Control System) or a DDS (data turntable) and consists of the components bitcontrol® DFI server with database system, the implemented VDV interfaces for the coupling to the supervising system and the safety-monitored communication channels via internet to the vehicle.

The following functions will be realised:

- Identification of the DFI real-time information from the ITCS/DDS via the implemented VDV interfaces in the DFI server

- Projection and administration of the current traffic condition (arrival times) relating to the vehicles, lines and stations in a real-time database inclusive validation monitoring of the DFI data

- Safety-monitored communication with the multifunction display servers in the vehicles via LTE / UMTS

- Provision of the latest actual connections to the next transfer point dedicated for each vehicle

- Provision of information about possible fault messages or detours depending on line or direction

The bitcontrol® DFI real-time system decouples the multifunction displays inside the trams from the direct communication with the ITCS/DDS via a secure, authenticated and encrypted connection.

Please turn orver!

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The connection of the multifunction displays to the bitcontrol® DFI server via LTE / UMTS occurs in client-server mode. The multifuncion displays are used here as clients and not as server. It means that the multifunction display sends its update requests to the bitcontrol® DFI server.

The bitcontrol® DFI server replies with the current traffic condition data. These data will be prepared and displayed with the bitcontrol® Multicontent Multimedia Player aspossible connections at the traffic points of the vehicles.

Depending on the equipment version of the vehicle, the bitcontrol® Multicontent Multimedia Player is able to pick up information packages from different data sources like IBIS-Wagenbus, IBISplus or digital signals.
Line number and route number will be extracted from the data sources and used as login information for the authentication of the multifunction display at the DFI server to receive the scheduled timetable and all ITCS/DDS real-time information in subscriber mode.

During runtime, the information of the different data sources are merged and shown with the bitcontrol® M² Player as a display that can be freely defined by the customer.
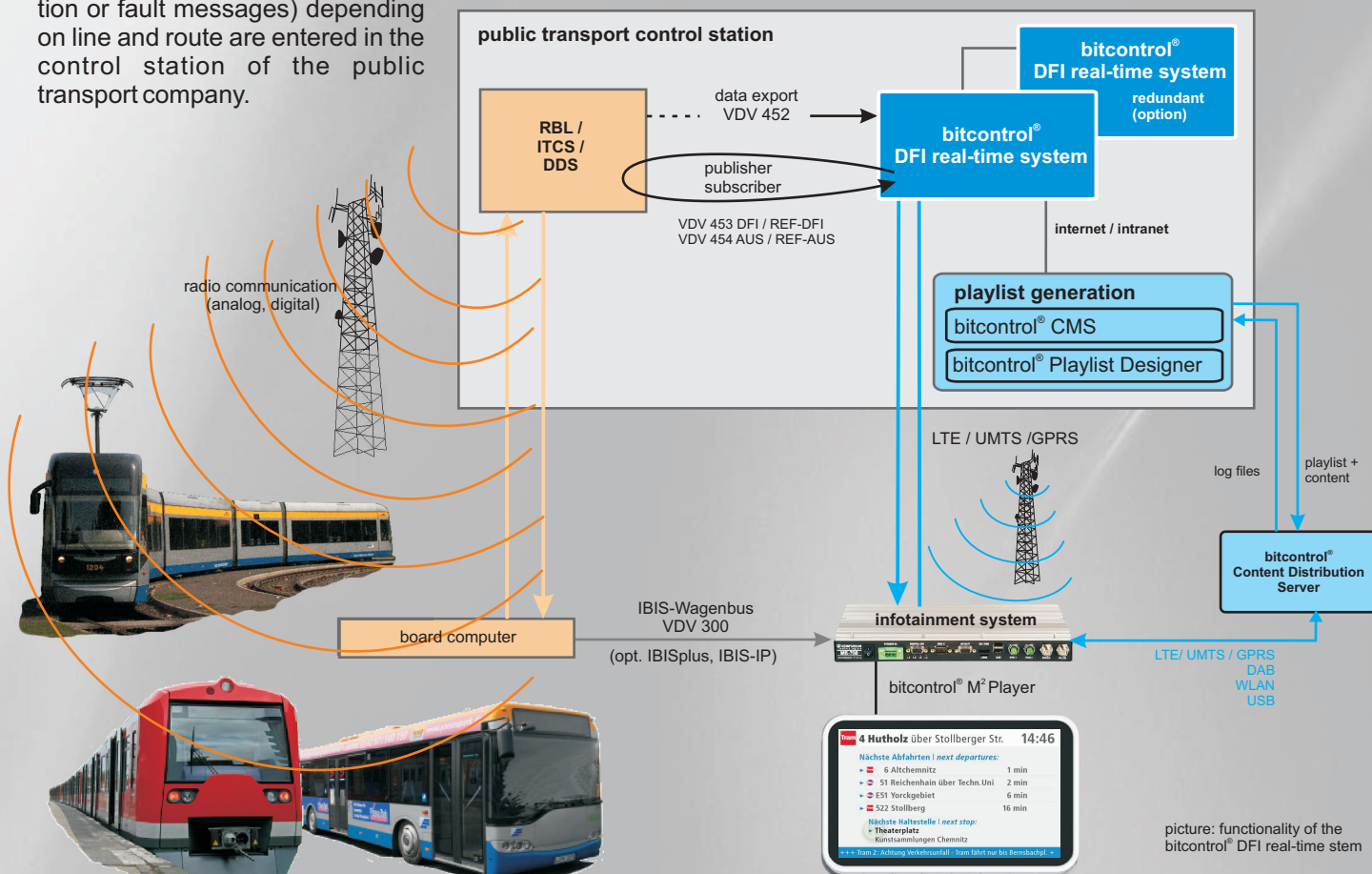
Message texts (e.g. traffic information or fault messages) depending on line and route are entered in the control station of the public transport company.

The messages will be transfered via ITCS and bitcontrol® DFI server dedicated to the vehicle and displayed as ticker in the multifuncion displays.

The system was developed in cooperation with the ITCS producer T-systems and has been installed in vehicles of the Chemnitzer Verkehrsbetriebe-AG for the first time.

For data transmission between the ITCS system and the DFI server, only default interfaces of the VDV 452/453/454 standards and specified services are used.

picture: functionality of the bitcontrol® DFI real-time stem

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